NORNICKEL

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Quintessentially Copper

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KEY TAKEAWAYS

Over the past six months, the global copper market has faced tightening supply, uneven demand, and persistent uncertainty caused by escalating trade tensions. By December 2024, prices fell to a low of $8,706/t. In the first half of 2025, the market slightly recovered, with prices rising to $9,849/t by May. This rebound was driven by several factors, including Chinese stimulus efforts, ongoing supply disruptions, a weakening US dollar, as well as an LME stocks drawdown and intensified metal shipments to the US in the anticipation of potential import duties. However, the pace of recovery was limited by weak demand in Europe and sustained trade-related uncertainty.

The copper concentrate market remained under significant pressure during this period, with treatment and refining charges (TC/RCs) hovering near the historic lows of $5/t to $15/t. These rates were well below the estimated breakeven point of approximately $40/t for Chinese smelters, creating increasingly difficult operating conditions across the sector while higher gold and sulphuric acid prices provided only partial relief to the industry. Despite these economic challenges, China continued to expand its smelting capacity, adding an estimated 1.2 Mt of new capacity in 2025. This expansion took place against a backdrop of persistently tight concentrate supply and further exacerbated the imbalance between smelting demand and available feedstock. Our estimates suggest that approximately 300 kt of excess smelting capacity would need to be shut down in order to restore a more sustainable balance between supply and demand. However, even this reduction may still prove to be insufficient if concentrate's availability remains constrained, underscoring the structural nature of the current market tightness.

Supply-side constraints remained a central concern for the global copper market during this period. The suspension of operations at the Cobre Panama mine, following a protracted legal and political dispute, continued to remove a significant source of concentrate from the market, with no resolution in sight. At the same time, Anglo American revised its production guidance downward due to ongoing operational difficulties, particularly at its Los Bronces and Quellaveco operations. Planned production growth in sub-Saharan Africa, especially in the Democratic Republic of the Congo and Zambia, faced notable delays, primarily due to persistent power shortages, logistical challenges, and inadequate infrastructure. Notably, the Kamoa-Kakula project, one of the region's flagship copper operations, also encountered setbacks, including flooding issues and a subsequent downward revision of production guidance, highlighting the operational risks that even world-class assets face there. In early 2025, Ivanhoe Mines reported significant disruptions at its Kamoa-Kakula operation due to localised flooding in the underground workings, triggered by unusually heavy rainfall and an inadequate drainage system. The incident forced a temporary halt in mining activities in several high-grade zones, directly impacting ore throughput and prompting a downward revision of the annual production guidance. The updated forecast reflected this reduction, underscoring how vulnerable even technically advanced projects are to environmental and infrastructural risks. The company is now focused on mitigating future risks through enhanced water management systems and contingency planning. Nevertheless, this event has drawn investors' attention to broader regional challenges such as ageing infrastructure, unstable power supply, and the lack of resilient transport networks. In mature mining jurisdictions like Chile, structural issues also persisted while declining ore grades at some older deposits offset output gains from the recently commissioned projects. Collectively, these factors reinforce the bleak outlook for the global copper supply.

In H1 2025, **demand** patterns demonstrated significant regional variations. In China, government stimulus efforts aimed at infrastructure development and power grid expansion contributed to the stabilisation of copper use, although ongoing weakness in the real estate sector continued to weigh on the overall demand. The country's export-orientated manufacturing sector also encountered headwinds due to escalating trade restrictions, resulting in a mixed outlook for industrial copper usage. In Europe, demand remained weak as the region continued to suffer from the effects of its energy crisis. Several energy-intensive industries sustained falling output levels or relocated production to other regions in response to persistently high energy costs. For example, Austria's Montanwerke Brixlegg introduced a floating energy surcharge on its cathode premiums to compensate for surging electricity prices, while Germany's Aurubis prioritised expansion projects outside Europe, including a new recycling smelter in the United States, to mitigate the risks associated with Europe's high energy costs.

On a global scale, demand from sectors linked to the energy transition and digital infrastructure, including electric vehicles, renewable energy installations, and artificial intelligence data centres, provided fundamental support for copper use. While structural demand remained strong, the pace of growth in these segments was moderated by tighter financing conditions and higher capital costs in Western markets, which affected project timelines and investment decisions. At the same time, the broader global shift towards economic segmentation, isolationism and industrial self-sufficiency has continued to support the long-term demand outlook for copper. Policy efforts aimed at localising critical supply chains, advancing energy security, resource independence, and promoting regional manufacturing resilience have increased the material intensity of industrial development. These developments, particularly in energy infrastructure, electric mobility, and digital transformation, require substantial investment in copper-intensive systems, thereby reinforcing structural demand.

Geopolitical tensions contributed to heightened market volatility. Rapidly escalating trade tensions between the United States and, predominantly, China, raised market uncertainty. Trade tensions and persistent inflation concerns have led the Federal Reserve to reassess its plans for interest rate cuts, dampening optimism in the manufacturing sector and putting downward pressure on copper prices. Conversely, Chinese authorities have kept

their interest rates low to stimulate domestic growth, sustaining an accommodative monetary policy stance. While critical minerals' issues are still very relevant, broader macro and geopolitical trends are becoming more influential. Our base case assumes ongoing isolationism, geopolitical fragmentation, moderate global growth, and divergent monetary policies – all these factors are likely to sustain market volatility. In H2 2025, the copper market is expected to face tight supply and moderate demand growth, with some potential upside if the Chinese stimulus proves to be effective or the trade tensions ease. Persistent concentrate shortages may pressure smelters, especially higher-cost operators.

In addition to that, the risk of Section 232 import tariffs to the U.S. escalated copper import to the country, reaching about 600-750 kt in 1H 2025 incrementally above normal levels. This caused the LME stock reduction by 180 kt YTD to 91 kt in the end of June, which is only 1 day of consumption, while global exchange stocks are sufficient to cover 5 days of demand.

Refined copper	2024	2025E	2026E
Demand, Mt	26.5 (+4%)	27.3 (+3%)	28.1(+3%)
Supply, Mt	26.9(+4%)	27.2 (+1%)	28.3(+4%)

Source: NN Analysis

The concentrate segment is anticipated to remain undersupplied, sustaining pressure on treatment and refining charges and potentially leading some smelters, particularly those with higher operating costs, to scale back or suspend production.

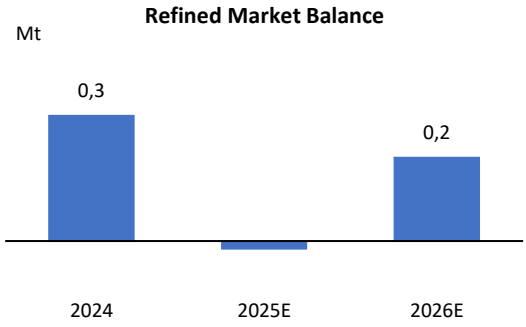
Geopolitical risks remain a major source of uncertainty, with the potential to either exacerbate supply constraints or negatively affect demand, depending on the trajectories of the trade relations and regional political developments. As such, the near-term market dynamics are likely to be shaped by the complex interplay between China's economic recovery, the resolution or persistence of the current supply limitations, and broader developments in the global macroeconomic landscape, all of which will be critical in determining the copper market's direction through the remainder of this year.

Based on that, our refined copper market balance has been updated. For 2024, demand reached approximately 26.5 Mt, representing YoY growth of 4%. Supply slightly outpaced demand at 26.9 Mt, also increasing by 4% and resulting in an estimated surplus of approximately 300 Kt. In 2025, the market is expected to move toward balance, with demand reaching 27.3 Mt and supply hovering at 27.2 Mt, implying a near-equilibrium state. By 2026, both demand and supply are expected to continue rising, reaching 28.1 and 28.3 Mt respectively and maintaining a relatively stable market environment.

While the short-term market outlook suggests relative balance, structural supply-side risks remain a key concern for the medium to long term. Despite recent expansion projects, global mine development continues to face significant challenges, including declining ore grades, project delays, and infrastructure limitations, particularly outside China. These structural constraints, coupled with steadily growing demand driven by energy transition, electrification, and digitalisation, are expected to tighten market fundamentals over time.

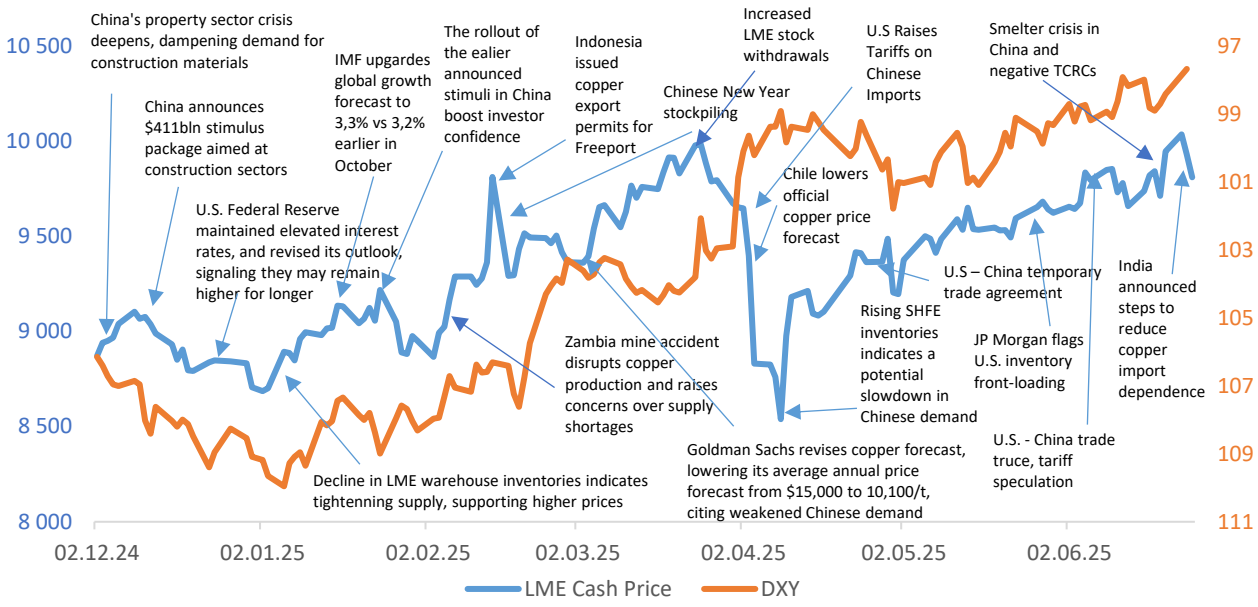
On the supply side, production capacity has been supported by ongoing expansion projects, particularly in Africa and Asia. Significant progress has been made in the Democratic Republic of the Congo and Zambia, with Chinese-backed operations continuing to contribute meaningfully to global mine output. However, the diversity and scale of the global copper market mean that Chinese investments alone are insufficient to close the supply gap. As a result, major Western mining firms including First Quantum, Rio Tinto, and BHP have renewed their focus on expansion and project development, considering these efforts as part of their strategic preparation for an anticipated long-term copper supply deficit. These companies recognize that structural constraints on supply, coupled with accelerating demand growth, are likely to sustain market tightness well into the future.

In summary, while the short-term uncertainty surrounding the US trade policy and global trade remains a relevant factor, the medium to long-term outlook for copper remains fundamentally supported by strategic industrial policy, infrastructure development, and the global transition toward decarbonised and decentralized energy systems.

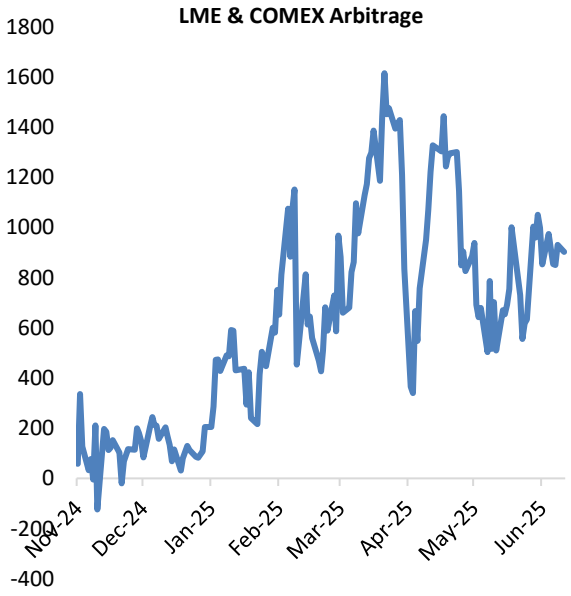


Sources: NN Analysis

MARKET SENTIMENT



Sources: LME, Reuters, Bloomberg, NN Analysis



Sources: LME, CME, NN Analysis

Between December 2024 and May 2025, the refined copper market was shaped by a complex interplay of macroeconomic developments, post-election political uncertainty in the United States and structural demand trends. Following the US presidential election in November 2024, investor sentiment remained cautious amid speculation about the incoming administration's stance on trade and monetary policy. Although no immediate policy shifts were enacted, concerns about a potential return to protectionism and a stronger US dollar weighed on market expectations.

During this period, global copper prices experienced significant volatility, driven by broader economic instability and ongoing trade tensions that dampened global growth prospects. The London Metal Exchange (LME) Copper Cash price, a key indicator of global industrial health, reacted sensitively to these developments, particularly those involving China and the United States. High global exchange stock inventories and sporadic supply-side disruptions further contributed to price fluctuations, reflecting both underlying demand uncertainty and logistical challenges in the copper supply chain.

Copper prices began declining as early as September 2024, driven by weakening macroeconomic conditions in China. Prolonged real estate troubles, combined with muted industrial activity, continued to weigh on demand. By the end of December, copper prices fell to $8,706/t, reflecting an 11.3% decrease from the October peak of $9,810/t, the highest level recorded in H2 2024. However, from January 2025 onward, the market began to rebound, supported by improving sentiment, expectations of new stimulus measures in China, and some tentative signs of stabilisation in the global manufacturing activity.

Although the Chinese government announced a substantial $411 billion stimulus package in December 2024, which was primarily directed toward infrastructure investment, the initial market response was muted, reflecting persistent doubts regarding the efficiency of such measures.

At the same time, the US Federal Reserve maintained a restrictive monetary policy stance throughout the year, revising its rate projections upwards. This approach strengthened the US dollar and had a sustained restraining effect on economic growth and copper prices.

However, by the end of January, copper rebounded to approximately $8,975/t, as sentiment turned more constructive amid the early signs of policy impacts and improving investor confidence. The drawdown of

inventories at LME warehouses added to positive sentiment, suggesting a tightening physical supply. Broader macroeconomic conditions also provided some support; in particular, the IMF slightly upgraded its global growth outlook, giving investors renewed confidence in industrial metals.

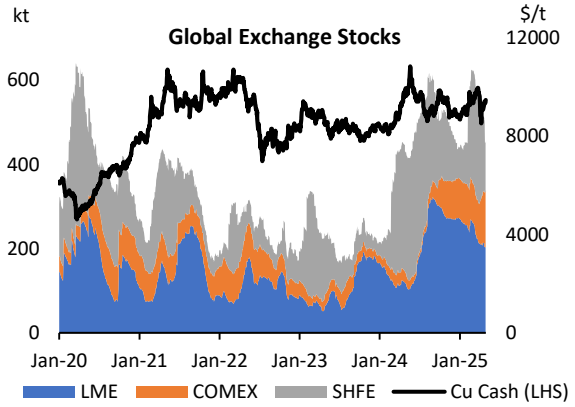
February brought a major shock to the copper market. On 18th February, a dam collapsed at Mwambashi copper mine in Zambia, operated by Sino-Metals, which extracts around 500 kt Cu units annually. It triggered environmental concerns and severely disrupted supply. Combined with seasonal stockpiling in China ahead of the Lunar New Year, the incident helped drive prices up to around $9,812/t. A weaker dollar during this period also made copper more attractive to overseas buyers, amplifying the effect.

In March, copper markets were primarily driven by an anticipation of potential US tariffs on copper and related imports. Prices reached a near-term high of $9,982/t, supported by strong physical demand and tightening global supply. Following President Trump's announcement on 25th February of an investigation into whether copper imports pose a threat to the US national security, American buyers and global traders accelerated procurement efforts to front-run the potential trade restrictions. This led to increased withdrawals of copper from the LME warehouses for shipment to the United States, reducing available inventories on the exchange and placing upward pressure on prices. We estimate that, in addition to the normal imports, about ~350-400 kt of copper have already been brought into the US, with another ~250 kt still on their way and likely to reach the US by the beginning of Q3.

Although major investment banks revised their medium-term copper forecasts, citing weakening demand from China, the short-term market sentiment remained positive. The price support was further reinforced by supply chain constraints and speculative positioning, which continued to outweigh broader macroeconomic concerns.

However, all that changed in April when the unexpected severity and unprecedented scope of the Trump Administration's tariff measures triggered a sharp downturn across the equity and commodity markets, resulting in a significant correction in prices to $8,539/t.

Following the early April (2nd – 9th April) collapse, copper prices experienced a recovery throughout the remainder of April and into May, supported by strong end-user buying in China and the official announcement regarding the postponement of the tariffs implementation, which mitigated some near-term market uncertainties.

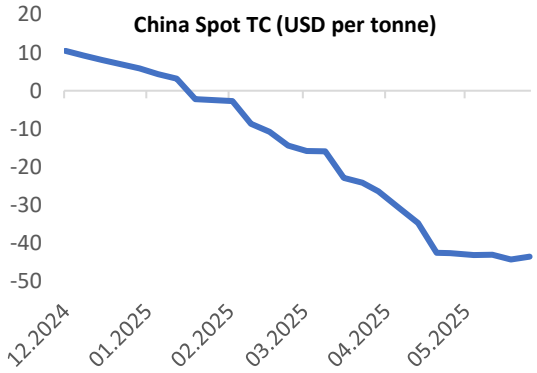


Source: LME, SHFE, CME

Furthermore, on 12th May, a temporary truce in a trade war between the United States and China provided a degree of relief to the copper market, as both parties agreed to moderate the planned tariff increases to 30% and 10%, respectively. Nevertheless, the longer-term fate of the new US tariff policy remains undecided. A judicial ruling temporarily suspended the full implementation of the measures, and on 11th June, the two countries reached a preliminary agreement to establish long-term tariff levels of 55% on imports into the United States and 10% on imports into China, pending further ratification.

Having said that, concerns persist following a downward revision of the global copper demand by major research consultancies and analysts who emphasise a slower-than-expected growth in electric vehicle production and renewable infrastructure.

In terms of exchange inventories, SHFE stocks increased seasonally from December to March - a trend consistent with historical patterns due to reduced downstream activity during the Lunar New Year period. COMEX inventories remained stable, supported by the expectations of the upcoming tariffs that encouraged stockpiling within the US market. In contrast, LME inventories saw a steady decline, largely attributed to the metal's outflow into North America in anticipation of tighter trade restrictions.



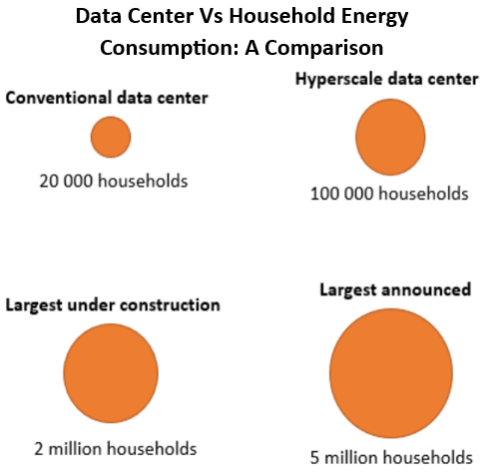
Source: SMM

DEMAND

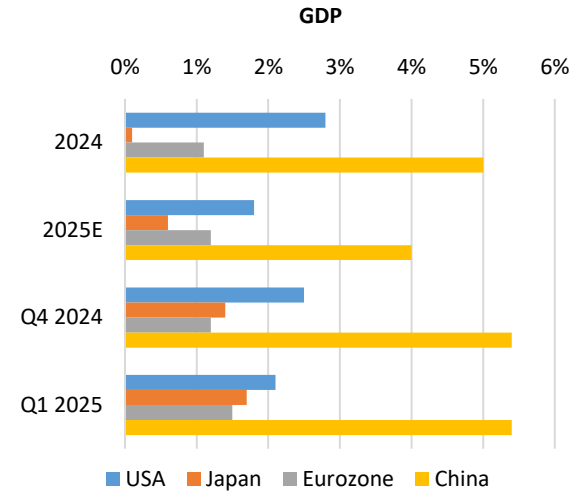
Copper remains a critical material within the global industrial landscape, with its demand closely linked to the macroeconomic performance. However, as of mid-2025, the global economic environment paints a very hectic picture. The IMF projects the global GDP growth at a modest 3.3% for both 2025 and 2026, reflecting a slight deceleration compared to the earlier expectations: e.g. the 2025 forecast was revised downward from an earlier estimate of 3.5%. Similar corrections have been made for 2026; this adjustment underscores the growing impact of the rapidly escalating trade tensions and geopolitical uncertainties. The resulting slowdown has placed a constraint on the demand growth in some key copper-consuming sectors, particularly those that are more sensitive to macroeconomic shifts. For example, in the construction and heavy manufacturing sectors, project delays and reduced investment have tempered the demand for copper-containing materials, as these industries start to scale back in response to a broader macroeconomic uncertainty.

Despite these challenges, copper demand remains robust due to structural shifts in the global economy that are translating into significant growth in certain sectors. ***Among the most important drivers is the ongoing global transition toward renewable energy, electrified transport, developing data centres for the needs of the fast-growing AI industry and, of course, the long-overdue modernisation of power grids.***

The electrification of transport is the most significant factor behind the rising copper demand. As governments around the world implement stricter emissions regulations and promote the adoption of electrified vehicles (incl. both BEVs and hybrids), the demand for copper, which is used in the manufacturing of batteries, motors, charging stations, and other related infrastructure, has surged. Despite a noticeable slowdown in the growth rate of BEV sales during 2024-2025, hybridisation has accelerated, emerging as the primary route of electrified vehicles' adoption. This shift reflects automakers' strategic emphasis on hybrid models as a more flexible and cost-effective solution to meet



Source: IEA



Source: IMF, NN Analysis

tightening emissions standards, particularly in regions where charging infrastructure remains undeveloped. With EV production and adoption accelerating globally, this is expected to be a major driver for the copper demand in the foreseeable future.

In addition to transport, other areas of the economy are also playing an increasingly important role in driving the structural growth in copper demand. Notably, the global expansion and modernisation of power grids has become essential to be able to accommodate the integration of renewable energy sources and to support the growing complexity of a much more decentralised electricity consumption. Owing to its superior conductivity, durability, and reliability, copper remains a fundamental material of choice in both the transmission and distribution infrastructures. At the same time, the rapid advancement of artificial intelligence and cloud computing is accelerating the global development of data centres. These facilities are characterised by significantly higher energy consumption compared to traditional computing infrastructure and require conceptually different and highly efficient electrical and thermal management systems, in which copper plays a central role. Consequently, digital infrastructure is becoming a core component of the long-term copper demand, complementing the broader trends of clean energy deployment and the electrification of transport.

Another key factor influencing copper demand is the shift towards economic regionalisation and isolationism. Over the past several years, there has been a noticeable growing trend towards economic isolationism, as countries prioritise domestic production and the resilience of their own industrial supply chains. The globalised economic model that has dominated international trade for 8 decades is now being re-examined, and many nations are taking radical steps to secure supply chains using critical materials like copper.

The United States have been closely examining their reliance on copper imports, particularly in the context of the ongoing Section 232 investigation into copper trade. This investigation raises the possibility of imposing tariffs of around 25% on copper imports, analogous to the tariffs

currently applied to aluminium and steel, potentially by Q3 2025. Such measures aim to protect and support domestic copper production and strengthen supply chain security for domestic industries heavily dependent on copper. Nowadays, the USA, despite quite a significant mine production of 1.2 Mt and 622 kt of direct use of copper scrap, still import a lot of refined copper due to the lack of processing capacities within the country. If new tariffs are imposed, we might witness a wave of new copper smelting and refining projects in the country that, in the mid-term, may spur the global race for copper concentrates and create additional pressure on TC/RC levels.

However, on 2nd April, US import tariffs on copper were not implemented, which is consistent with the approach taken for the majority of raw materials. Nonetheless, concerns regarding the potential introduction of these tariffs persist. This policy measure could disrupt global trade flows, leading to shifts in copper pricing and availability, particularly for the industries that are heavily reliant on copper imports. Besides, there are significant risks that the tariffs may unfold not the way it has been intended.

An increasing number of developed economies are adopting policies aimed at strengthening domestic manufacturing and reducing dependence on external sources for strategically important materials. Both the United States and the European Union have implemented a range of measures to stimulate local production in critical sectors such as renewable energy, power grid development, electric mobility and digital infrastructure. These sectors are fundamentally copper-intensive, and, as the demand grows, so does the need for essential raw materials such as copper.

This shift toward self-reliant, isolated industrial ecosystems has led to the emergence of new copper-intensive projects that were previously dispersed across global supply chains. Building domestic manufacturing capabilities in electric vehicles, batteries, and renewable energy systems requires substantial copper investment, not only to produce the end-use products but also to establish plants, factories, power grids, and infrastructure required for these sectors.

As competition for strategic materials intensifies, countries are also turning to more assertive isolationist trade policies, including restrictions on the export of scrap materials. These measures, intended to shield domestic markets from shortages of critical resources, further strain global recycling flows. China, the world's leading processor of secondary metals, is particularly vulnerable to such moves due to its heavy reliance on imported scrap. As a result, resource nationalism and isolationism are disrupting not only primary copper markets but also reshaping global flows of secondary materials, pushing nations towards even greater resource self-isolation and replication of industrial capacities.

In summary, while the short-term outlook for copper demand has been undetermined by the uncertainty, long-term prospects remain highly favourable. The growing push for clean energy, the electrification of transport, and the rapidly accelerating shift towards self-reliant, self-sufficient and self-isolated national ecosystems all point to a sustained and increasing demand for copper in the coming years.

Considering the current trade war developments, two likely scenarios of the impact of tariffs on the global refined copper demand emerge. The baseline scenario assumes a temporary de-escalation of the trade war between the US and the rest of the world, and China in particular. This scenario was initially supported by the May decision to suspend the implementation of some newly imposed tariffs for 90 days. It was further supported by the preliminary agreement reached on 11th June, when both parties proposed new long-term tariff levels: 55% on imports into the United States and 10% on imports into China, subject to final ratification. Under this scenario, while the ongoing uncertainty may still contribute to a temporary deceleration of the demand growth, global refined copper use is expected to maintain a positive trajectory, though at a more moderate pace. Following an estimated 26.4 Mt in 2024, the demand is projected to rise to 27.3 Mt in 2025 and 28.1 Mt in 2026, translating into a revised average annual growth rate of approximately 3%, compared to the previously recorded rate of around 4% YoY.

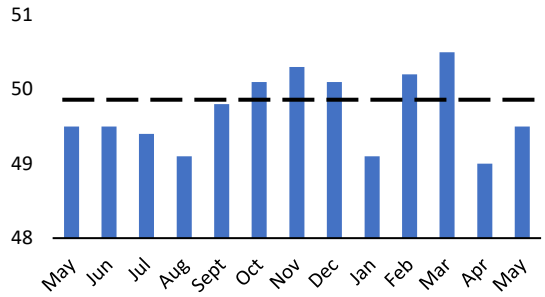
The other, more pessimistic, scenario considers an intensification of the trade war and its broadening beyond the US and China, with other major economies getting actively involved. In such a case, a much more significant disruption of global supply chains and industrial activity could occur, leading to a pronounced slowdown in the copper use growth or even a temporary contraction of the demand. We estimate that up to 1.5-3% of global copper use could be at risk over a 1–2-year period if the mutual tariffs of over 50-100% between the US and China are implemented. An even greater impact is possible should other countries become actively engaged in the trade war. While at present, this scenario remains somewhat less probable, it underscores the importance of monitoring geopolitical developments and trade negotiations closely, as their unpredictable outcomes will critically shape the market dynamics for the years to come.

Importantly, in the context of intensifying geopolitical tensions and trade disputes, the prioritisation of strategic national interests and economic self-sufficiency has become increasingly prominent in national policy frameworks. While the ongoing shift towards regionalisation and self-isolationism was intended to enhance supply chain resilience and reduce external dependencies, it puts significant demands on the financial and material resources, which are not readily available. As a result, the allocation of capital originally intended for long-term sustainability objectives, including the development of renewable energy and electrification, has become much more constrained. This reallocation reflects a broader global trend when environmental and decarbonisation agendas are increasingly deprioritised in favour of immediate pragmatic imperatives of national security.

As we take a closer look at the current situation in major economies, we can see that ***China's*** **macro data** shows mixed dynamics in their PMI and industrial production (IP) during the last 12 months. Since April, the PMI has been

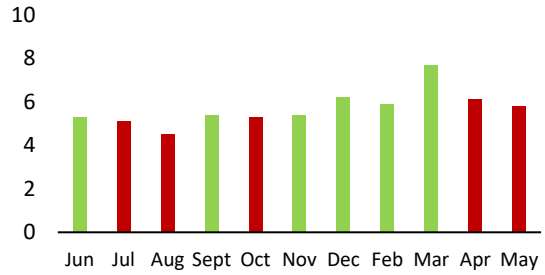
under pressure, reflecting weakening performance. However, industrial production (IP) remained relatively resilient, reaching a 7.7% growth in March, supported largely by robust exports. In March 2025, the PMI rose slightly to 50.5, signalling a tentative return to positive levels after a period of decline. However, the April and May PMI figures were among the lowest in 12 months, indicating the growing pessimism over tariffs and marking the figures of 49 and 49.5, respectively. This contrast underscores how strong export demand has continued to support the overall industrial output and the Chinese economy, in general. At the same time, our meetings with the end users in China over the LME Week Asia held in the second half of May revealed general optimism among the market participants. Most of the players report strong order books and limited impacts of tariffs if these stay at the current level, since generally, they can be absorbed by the value chain, especially taking into account the cost advantage the Chinese producers enjoy. However, some of the end users agree that the situation may change from Q3 onwards, as the positive impact of front-loading deteriorates.

China PMI Index



Source: investing.com

China IP



Source: investing.com; Red- lower than forecast, Green – higher than forecast

To navigate the increasingly complex 2025 global landscape marked by escalating trade wars, domestic deflationary pressures, and subdued consumer confidence, the Chinese government has introduced a new wave of targeted economic stimuli. In early 2025, Beijing announced a $411 billion subsidy package, aimed primarily at supporting key export-orientated and high-tech industries, including electronics, green energy components, and heavy machinery. This measure seeks to mitigate the impact of foreign trade restrictions while preserving China's competitive edge in global supply chains.

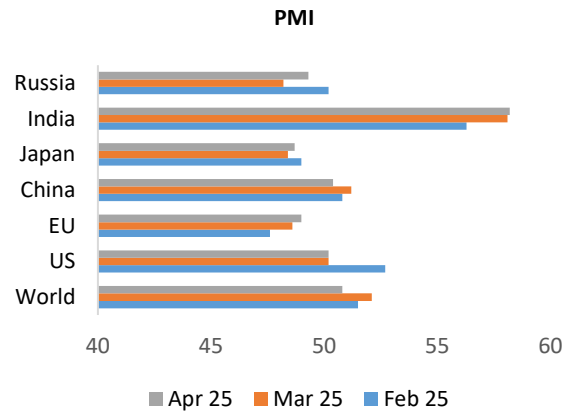
On the monetary side, the People's Bank of China maintained its accommodative stance by further reducing the reserve requirement ratio by 0.25% in March 2025 and injecting an additional CNY 600 billion into the interbank system. Interest rates were held steady at recent central bank meetings, following several reductions throughout 2024 and early 2025. Major central banks, including the Federal Reserve and ECB, have indicated their willingness to implement further monetary easing, including additional rate cuts, should deflationary pressures persist and continue to dampen economic growth. Simultaneously, local governments were granted easier access to credit facilities to support job creation and public services, particularly in lower-tier cities facing rising unemployment.

A clear shift in the focus of their stimulus policy has become evident: while earlier efforts were predominantly aimed at infrastructure development, the 2025 strategy places the greatest emphasis on fiscal support, industrial modernisation (predominantly focused on cutting-edge technologies), and stabilising the property market. The central bank has expanded the affordable housing loan programme, increasing its funding to CNY 500 billion and introducing new guarantees to assist developers in completing stalled projects. In terms of industrial policy, the priorities have shifted decisively toward high-tech sectors. This includes areas such as semiconductors, AI, EVs, and biotechnology. The rationale behind this shift appears twofold: to catch up with Western economies in critical technologies where China still relies on imports, and at the same time to scale up exports by leveraging the already competitive quality of their domestic production in areas where China holds a strong position.

Despite these initiatives, significant challenges persist. Consumer confidence remains fragile, impacted by the declining real estate figures and modest wage growth, while private investment continues to be constrained by the persistent regulatory uncertainty. Moreover, the ongoing fragmentation of global trade, driven not only by the newly imposed US tariffs but also by the strengthening trend of regional and national supply chain investment among Western economies, poses a tangible risk to China's long-term export prospects.

China's Q1 2025 GDP growth stood at 4.3% year-on-year, marking a slight slowdown from 4.4% in Q4 2024. The IMF projects a full-year growth of 4.48%, with a modest rebound to 4.6% anticipated in 2026, contingent upon the improved global conditions and the successful implementation of the current stimulus measures. However, the IMF's latest forecast only partially reflects the potential economic impact of the recently announced tariffs, suggesting that downside risks remain if trade tensions escalate further.

In summary, while recent measures, including the $411 billion subsidy programme, may provide some short-term support to key industries and help mitigate the risk of a more pronounced economic slowdown, the medium-term outlook will largely depend on China's ability to advance structural reforms, stimulate domestic demand, and effectively manage escalating geopolitical and trade-related challenges.

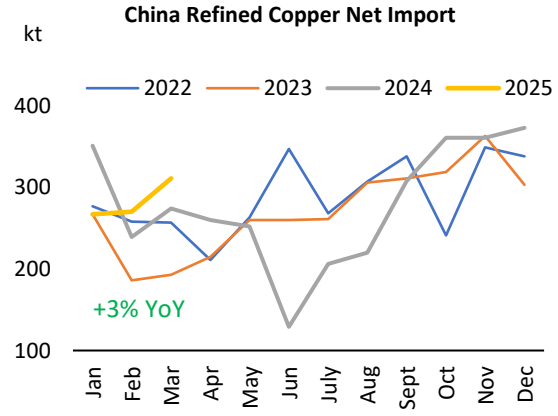


Source: National Statistics Bureau

Copper trade in China. Between December 2024 and May 2025, China's copper trade showed mixed dynamics across product segments, shaped by the changing domestic demand and shifting global price signals.

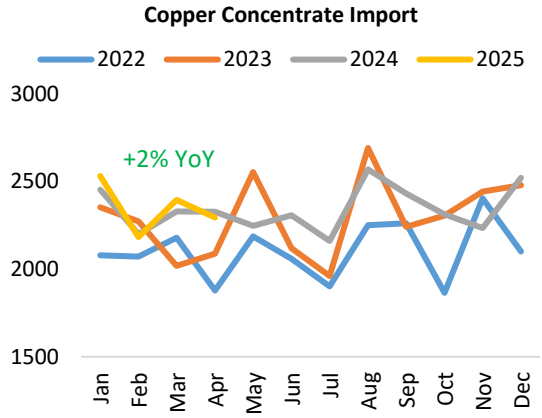
Imports of refined copper during April–May 2025 totalled 506 kt, marking a 17% decline YoY. In April alone, imports stood at 251 kt (-12% YoY), along with even stronger decline in May to 255kt compared to the previous year (-24% YoY). These figures reflect a muted domestic demand environment amid weak manufacturing activity.

However, refined copper exports surged during the same period, reaching 49 Kt - up 113% compared to the previous year. For example, April 2025 alone accounted for 78 Kt, up 212% YoY. This increase was largely driven by favourable international pricing and the re-opening of the arbitrage window between the LME and SHFE.



Source: TDM

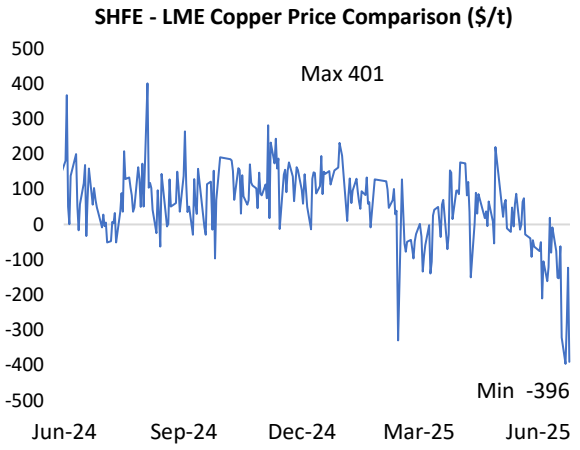
Imports of copper concentrates continued to rise, driven by a stronger demand from the expanding smelting capacities. In December 2024, China imported 2.5 Mt of concentrates - a 12% increase MoM and 1.7% higher than a year earlier. By April 2025, monthly imports have fallen to 2.4 Mt. Cumulatively, from January to March 2025, China imported 9.6 Mt of concentrates, representing a 7% increase YoY



Source: TDM

In contrast to other forms, copper scrap imports showed some modest weakness in early 2025. From January to March, imports totalled 790 Kt, a slight decline of 0.81% YoY. The fluctuation reflects the volatility of the global scrap availability and the sustained tight inspection standards at Chinese ports. Lower import from the US will also put pressure on the Chinese scrap trade in the coming months.

Looking ahead to H2 2025, China's copper concentrate imports are expected to maintain their upward trend, supported by the continued smelter expansions. Scrap imports may stabilise or even rebound if high copper prices persist. However, imports of refined copper are projected to remain stable throughout the year, reflecting the interplay between subdued domestic consumption, which suppresses import demand, and favorable international pricing conditions, which support import incentives.



Source: NN Analysis

We expect the 2025 Chinese refined copper use to reach approximately 15.8 Mt (+3.4% YoY) in 2025. Demand is expected to grow further, reaching 16.2 Mt in 2026, a 2.7% increase. Together with scrap, China's total copper use was at 17.4 Mt in 2024, and is expected to rise to 18 Mt in 2025 (+3%) and 18.4 Mt (+3%) in 2026.

Source: TDM

In ***Asia***, excluding China, copper use is projected to grow by approximately 2.1% in 2025, reaching 5.4 Mt. India remains the region's key growth driver, with their use rising to nearly 0.9 Mt, an 8% YoY increase.

Looking ahead to 2025 and 2026, copper usage in the region is expected to grow further, reaching 5.4 Mt in 2025 and 5.6 Mt in 2026, representing a 3% YoY increase annually. India is expected to lead this growth, with their refined copper demand anticipated to climb to 0.95 Mt in 2025 and surpass 1 Mt in 2026. This expansion is supported by large-scale infrastructure investment, continued growth in renewable energy deployment, and ongoing upgrades to the power grid distribution systems. According to the IMF's April 2025 World Economic Outlook, India's real GDP is projected to grow by 7.0% in 2024 and 6.5% in 2025. These forecasts place India among the fastest-growing major economies globally, reflecting robust domestic demand, structural reforms, and sustained capital formation.

In 2024, copper use across ***Europe*** remained under pressure due to high energy costs, weak industrial performance, and uneven regional developments. Demand varied, with the southern countries showing relative resilience, while core manufacturing regions of the north faced persistent decline. Looking ahead, a moderate increase is expected, with annual refined copper demand projected to reach 3.22 Mt (+1% YoY) in 2025 and 3.29 Mt (+2.4% YoY) in 2026, assuming continued monetary loosening and government-led infrastructure spending. However, European long-term growth prospects remain uncertain, given structural weaknesses and rising trade and political risks.

According to Rosstat, the industrial production ***in Russia*** grew by 4.6% in 2024. This growth was primarily driven by manufacturing industries, which increased their output by 14% compared to the previous year. The mining sector expanded by 1.3%, while support industries posted only marginal growth of 0.8%. The energy sector, by contrast, experienced a decline of 2.8%, with electricity generation down by 1.5%. The largest contribution to industrial growth came from the sectors receiving government support. At the same time, domestic demand for copper products remained stable at approximately 400 Kt in 2024.

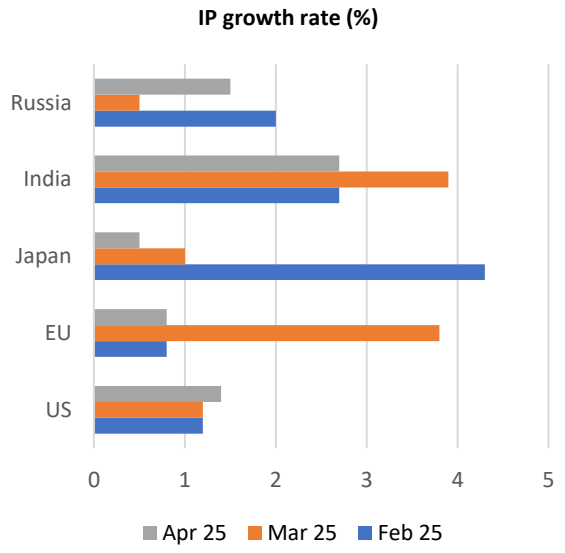
Although the Bank of Russia reduced its key rate by 1 percentage point to 20%, the current monetary stance, reinforced by continued restrictive forward guidance, is unlikely to generate a meaningful increase in business investment activity.

Over the next several years, domestic demand in Russia is expected to contract slightly, as the key copper end-use sectors, such as construction, energy, electrical engineering, and automotive manufacturing, are experiencing a slowdown amid declining investment activity.

The ***North American*** copper market continues to be shaped by structural investments in data infrastructure and energy systems. As of 2024, the region accounted for the largest global share of copper demand associated with data centre development. Refined copper consumption in the United States reached 1.5 Mt and is projected to increase to 1.6 Mt in 2025 and 1.65 Mt in 2026. Broader regional demand may rise to 2.3 Mt by 2026, underpinned by the ongoing technological upgrades, a rebound in the industrial performance, and a more supportive macro-financial environment.

Against this backdrop, the potential introduction of US tariffs on copper imports is not expected to disrupt global copper availability materially, as international suppliers are likely to reallocate these volumes to alternative markets. However, the US may experience localised price distortions, with domestic buyers facing premiums relative to global benchmarks. The more immediate impact could transpire in the copper-intensive product categories imported from China, where constraints on exports to the US might suppress domestic copper use. Given China's outsized role in global demand, this could translate into some modest short-term pressure on the aggregate use indicators.

Nevertheless, the broader demand outlook remains resilient, supported by such trends as electrification, infrastructure digitalisation, and the transition to low-carbon energy. These long-term drivers are expected to continue anchoring copper demand, mitigating the effects of temporary market dislocations and policy-driven disruptions.



Source: National Statistics Bureau

SUPPLY

In our latest report, we anticipated a 1% reduction in the mined copper production this year. However, we have updated our outlook and now expect only a ***slight decline in 2025, with output reaching 23.1 Mt, representing an approximate decrease of 0.1% YoY followed by a +4.7% rise in 2026 to 24.3 Mt. As for the refined copper production, we estimate that the 2025 output will reach 27.1 Mt, reflecting a 1.1% YoY increase, and expect some further growth to 28.3 Mt in 2026.*** **The copper concentrates market** showed initial signs of adjustment in Q1, even as benchmark and spot treatment charges fell to record lows. This sharp decline highlights the growing pressure on smelters amid tightening supply and intensifying competition for available feed.

While concentrate production is expected to rise modestly from 18,129 kt in 2025 to 19,185 kt in 2026, this limited increase is unlikely to bridge the structural gap between the supply and demand. Persistent feedstock constraints are expected to cap availability over the medium term, slowing any meaningful recovery.

From 2025 to 2029, the market is expected to face a cumulative deficit of 3.1 Mt. Excluding the demand-side reductions driven by softer market conditions, the underlying shortfall could reach as much as 5.4 Mt. This sustained imbalance demonstrates that tight market conditions are set to persist, maintaining the downward pressure on treatment and refining terms through the medium term.

Weakness in TC/RCs is expected to play a critical role in enforcing smelter discipline and gradually restoring the balance in the concentrates market. In the near term, we estimate that approximately 300 kt of excess smelting capacity would need to be taken offline in 2025 to bring the system closer to equilibrium. However, even this level of adjustment may prove insufficient if concentrate supply remains structurally constrained. Without such adjustments, the mismatch between mine output and processing capacity could remain unresolved, with broader implications for pricing, investment, and long-term market dynamics.

Chile. The world's leading producer is expected to mine approximately 5.4 Mt in 2025, which is an unexpected decrease from the last year's 5.5 Mt (-3%), followed by a steady decrease in production in 2026. Meanwhile, Chilean refined copper production is projected to remain flat at around 2 Mt annually from 2025 to 2027.

Codelco, the world's largest copper producer, increased its output to 1.328 million tonnes in 2024, which is slightly above the 2023 levels, and emerging from a 25-year low. For 2025, the company aims to produce between 1.37 and 1.4 million tonnes, investing approximately $4.7 billion in upgrading the key mines. This includes a strategic partnership with Saudi investors, which is expected to strengthen Codelco's long-term production outlook and support its goal of reaching 1.7 Mt annually by the end of the decade, despite the persisting challenges like the declining ore grades and project delays.

The Democratic Republic of the Congo remained the world's second-largest copper producer in 2025. The DRC is expected to increase its mined copper production to 3.4 Mt in 2025 (+6.7% YoY) while its refined production stands at 2.6 Mt.

Key mining operations in the country continue to expand their capacity, driving a sustained growth in the copper output over the coming years.

The Kamoa-Kakula mining complex is the primary growth engine, having achieved the record copper concentrate production of approximately 437 kt in 2024, marking a 12% increase from the previous year. The completion of Phase 3 created a substantial increase in the processing capacity. Their production was initially expected to rise further in 2025, reaching around 600 kt of copper. However, recent technical issues, including flooding disrupting underground development, have led the company to revise its 2025 production guidance downward. Preparations remain underway for Phase 4, which is anticipated to add another 5 Mt of ore processing capacity annually, equivalent to approximately 225 kt of copper per year. While remediation efforts continue, it remains unclear whether these operational challenges will be fully resolved this year. Persistent delays could impact not only the 2025 output but also the timeline for achieving targeted capacity levels and advancing future expansion phases.

Tenke Fungurume, operated by China Molybdenum, is also investing in capacity expansion and technological upgrades, targeting copper production of 230 kt to 250 kt by 2025. Similarly, the Ruashi mine, owned by Metorex and Glencore, is undergoing a modernisation to increase production from around 35 kt to approximately 50 kt of copper concentrate by 2025 - 2026. In addition to these large-scale projects, numerous small and medium-sized operations contribute incrementally to national output.

These developments, underpinned by significant foreign investment, including that from the Chinese, are reinforcing the DRC's strategic role as a critical supplier within the global copper market

Peru, now the world's third-largest copper producer, lost its second-place ranking to the DRC after a year of steady output decline and structural challenges. In 2024, production fell by 0.7% year-on-year to 2.74 million metric tons, ending a four-year growth trend. The decline was largely driven by the falling ore grades at major mines such as Cerro Verde and Antamina, as well as the delays in new project development.

Although the Peruvian government initially projected 3 Mt of copper output for 2024, this was later revised down to 2.8 Mt. In 2025, Peru's copper production is expected to fall further to around 2.6 Mt, representing a 6% year-on-year decline, and the output is expected to remain flat over the following two years. Their refined copper production is estimated at approximately 400 kt annually from 2024 through 2026.

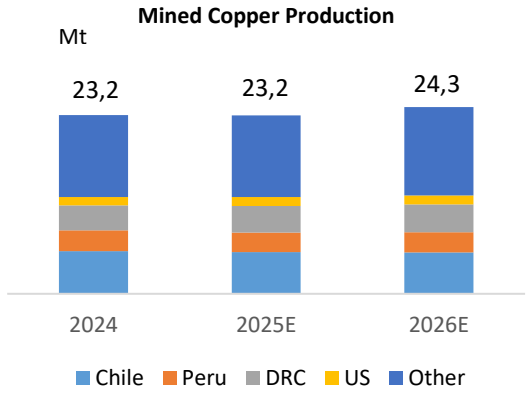
Persistent regulatory and investment uncertainties continue to weigh on the sector, constraining Peru's ability to ramp up output in the medium term.

In 2024, ***the United States*** produced approximately 1.1 Mt of mined copper and 800 kt of refined copper. Looking

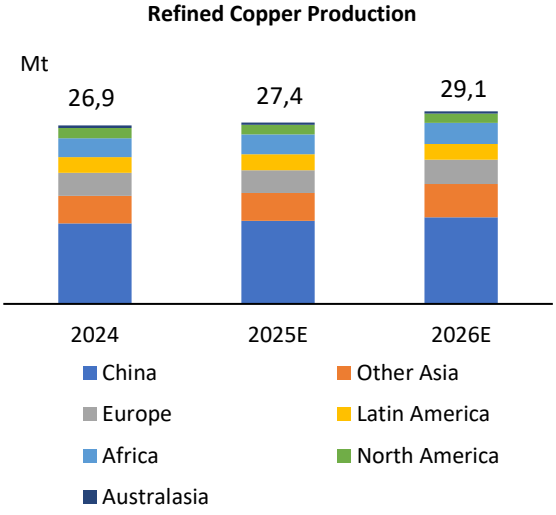
ahead, their mined copper production is expected to increase by 6% YoY in 2025, reaching 1.2 Mt, and the output is anticipated to remain at this level in 2026.

In contrast, their refined copper production is expected to decline by 7% YoY in 2025 to 772 kt, largely due to operational constraints and limited smelting capacity. However, a modest recovery is expected in 2026, with the refined output rising to 795 kt, marking a 3% YoY increase.

The recently introduced tariffs could further stimulate growth in both mined and refined production by supporting domestic output.



Source: NN Analysis, CRU



Source: NN Analysis, CRU

In 2025, ***Asia's*** mined production is expected to reach 4.8 Mt, translating into a 2% YoY decrease. Of this total, China is expected to contribute 1.9 Mt (+1% YoY), while Indonesia is likely to produce 0.8 Mt, marking a -23% YoY fall. Refined production is expected to rise to 16.8 Mt (+3% YoY), with Japan maintaining a steady output of 1.4 Mt and China increasing its production to 12.5 Mt.

Moreover, Adani Enterprises is also launching a copper smelter with an annual capacity of 500 kt to meet the rising domestic demand. However, market reports indicate that the company is experiencing difficulties in securing concentrate supply, which reflects broader tightness in the global market. These challenges appear to be further compounded by the ongoing legal battles involving the company's principal shareholder in the United States, which may affect their counterparties' willingness to enter into long-term supply agreements with the company.

Looking ahead to 2026, Asia's mined production is expected to grow by 9% YoY, reaching 5.3 Mt, while their refined production is expected to reach 18.2 Mt in 2026 (+8% YoY).

In 2024, copper production ***in Russia*** was estimated at approximately 1.1 Mt of copper concentrates and 0.96 Mt of refined copper. These figures include primary production as well as copper recovered from such secondary sources as scrap, matte, and blister copper. The Norilsk Nickel Group, including the Bystrinskoye mining and processing complex, increased its total copper output by 2% YoY, reaching 433 kt. This increase was partly due to the earlier-than-expected completion of the scheduled repairs on the suspension smelting furnace at the Nadezhda Metallurgical Plant.

Currently, the company is assessing the feasibility of relocating its copper smelting operations to China, following the planned closure of the Copper Plant in Norilsk. Any modernisation of this old Norilsk facility has been considered economically inefficient, especially given the excess global smelting capacity, particularly in China.

As for the Ural Mining and Metallurgical Company (UMMC) and the Russian Copper Company (RMK), our estimates suggest that their refined copper production remained stable in 2024, at approximately 430 kt and 200 kt, respectively. Given no official announcements about the capacity expansions, these levels are expected to be sustained in the medium term.

In 2024, the first production line of the Malmyzh mining and processing plant, located at the Malmyzh gold-copper porphyry deposit, was commissioned. The project is operated by Amur Minerals, a subsidiary of RMK. The facility has a designed ore processing capacity of 104 Mt per year, which according to projections could yield approximately 150 kt of copper in concentrate annually. However, it remains uncertain whether this production target will be fully achieved. Following full commissioning, currently anticipated by the end of 2025, the RMK group expects to have the capability to produce up to 400 kt of copper concentrate annually.

UMMC is expected to carry on the development of its own mining assets, including the Yubileynoye, Dergamyshskoye, and Podolsk deposit group, which collectively hold the estimated reserves of approximately 200 Mt of copper ore. These projects aim to achieve full raw material self-sufficiency for the company's cathode copper production by 2028.

According to our estimates, the Udokan Copper hydrometallurgical plant in Russia's Zabaykalsky Krai produced approximately 85 kt of copper in concentrate in 2024. In addition to concentrate output, it is likely that a portion of production has been supplied to the market in other forms, contributing to the company's overall sales volumes. A fire at the extraction workshop at the end of 2023 disrupted the original plans to reach the facility's Phase I design capacity of 150 kt of copper concentrate and

cathodes per year. According to the original timeline, Phase I of the Udokan Mining and Metallurgical Plant was expected to reach these design parameters by the end of 2024, with an initial ore processing capacity of up to 12 Mt per year, later to be expanded to 15 Mt. Meanwhile, Udokan Copper continues to work on the design of Phase II of the project, which is scheduled for commissioning in 2028. Upon completion, the two phases are expected to enable the processing of up to 50 Mt of ore and the production of 450 kt of copper annually.

The Ak-Sug copper deposit was acquired by a subsidiary of Intergeo, which is a subsidiary of the Rostec State Corporation. Production at this site is not expected to commence before 2027. Geological reserves at the Ak-Sug deposit, classified as C1 + C2, are estimated at approximately 384.5 Mt of ore containing more than 3.26 Mt of copper.

Following the change of ownership of the Baimskaya Mining and Processing Plant (Baimskaya GOK), no official project updates have been disclosed to date. This may indicate that the new owners are currently reviewing or adjusting their development strategy. According to the latest publicly available information, project financing is expected to be provided by VEB.RF

We expect the Russian copper supply to increase steadily through 2027, driven by the commissioning of new extraction projects and the progressive ramp-up of the existing concentrate production facilities to their nameplate capacity. The annual output of copper concentrate from mineral raw materials is expected to grow by up to 10%, while the refined copper production is expected to remain stable at around 1 Mt per year.

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GLOSSARY OF TERMS

Abbreviation	Term
BEV	Battery Electric Vehicle
CNY	Chinese Yuan
COMEX	Commodity Exchange Inc.
DXY	US Dollar Index
ECB	European Central Bank
EV	Electric Vehicle
GDP	Gross Domestic Product
GOK	Concentrator
IMF	International Monetary Fund
IP	Industrial Production
kt	Thousand tonnes
ktpa	Thousand tonnes per year
LME	London Metal Exchange
MoM	Month-over-Month
Mt	Million tonnes
PMI	Purchasing managers' index
RC	Refining charge
RMK	Russian Copper Company
SHFE	Shanghai Futures Exchange
TC	Treatment charge
UMMC	Ural Mining and Metallurgical Company
YoY	Year-on-year
YTD	Year-to-date